9-1998

Iowa Reptiles and Amphibians -- Iowa Wildlife Series

Iowa Association of Naturalists

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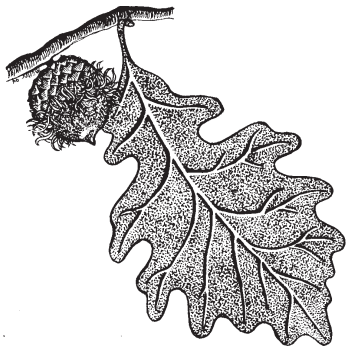

Iowa Association of Naturalists

The Iowa Association of Naturalists (IAN) is a nonprofit organization of people interested in promoting the development of skills and education within the art of interpreting the natural and cultural environment. IAN was founded in 1978 and may be contacted by writing the Conservation Education Center, 2473 160th Rd., Guthrie Center, IA 50115, 515/747-8383.

Iowa Wildlife Series

Students need to be knowledgeable about and appreciate local wildlife in order to better understand the natural environment. The Iowa Association of Naturalists has created this series of booklets to offer a basic understandable overview of Iowa wildlife. These booklets will assist educators in teaching students about Iowa wildlife. The six booklets in this series are:

Iowa Mammals (IAN-601)
Iowa Winter Birds (IAN-602)
Iowa Nesting Birds (IAN-603)
Iowa Reptiles and Amphibians (IAN-604)
Iowa Fish (IAN-605)
Iowa Insects and Other Invertebrates (IAN-606)

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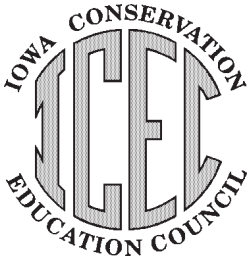

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Text: Joel Geske
Illustrations: Mark Müller
Design and Layout: Dan Cohen, Writing and Publications Services
Published by: Iowa Association of Naturalists

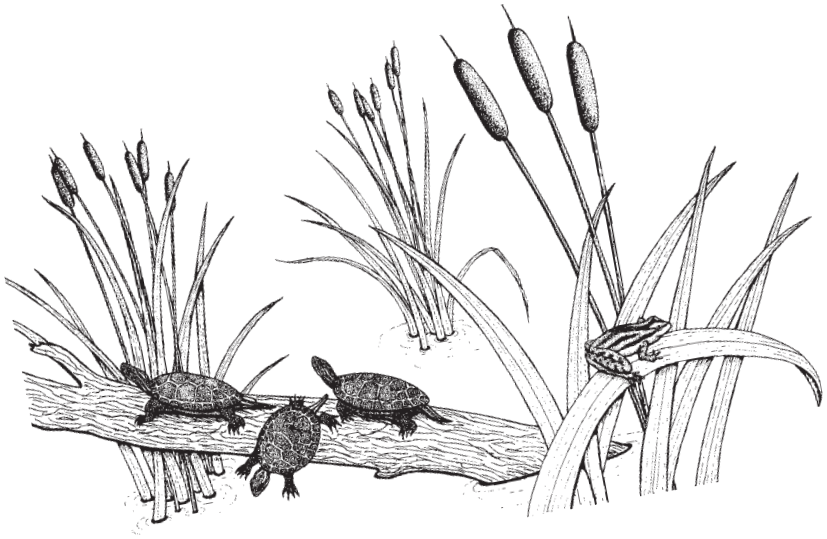
Iowa Reptiles and Amphibians

Reptiles and amphibians live nearly everywhere on Earth, from the Arctic circle to the southern tips of Africa and South America. They live in the oceans and deserts and every habitat in between. Some have survived from before the time of the dinosaurs.

Here in Iowa, the wide variety and large number of amphibians and reptiles - ranging from frogs and salamanders to turtles, lizards, and snakes - may surprise a lot of people. That's because many of these animals are secretive and come out only at night. They are an important part of the natural world, but many are misunderstood and even feared for no reason. Come visit the world of amphibians and reptiles.

Herpetology

Herpetology is the study of amphibians and reptiles. Herps is the name given to the large group of amphibians and reptiles. They are closely related and have some shared characteristics because reptiles most likely evolved from the amphibians. However, they also have distinct differences.



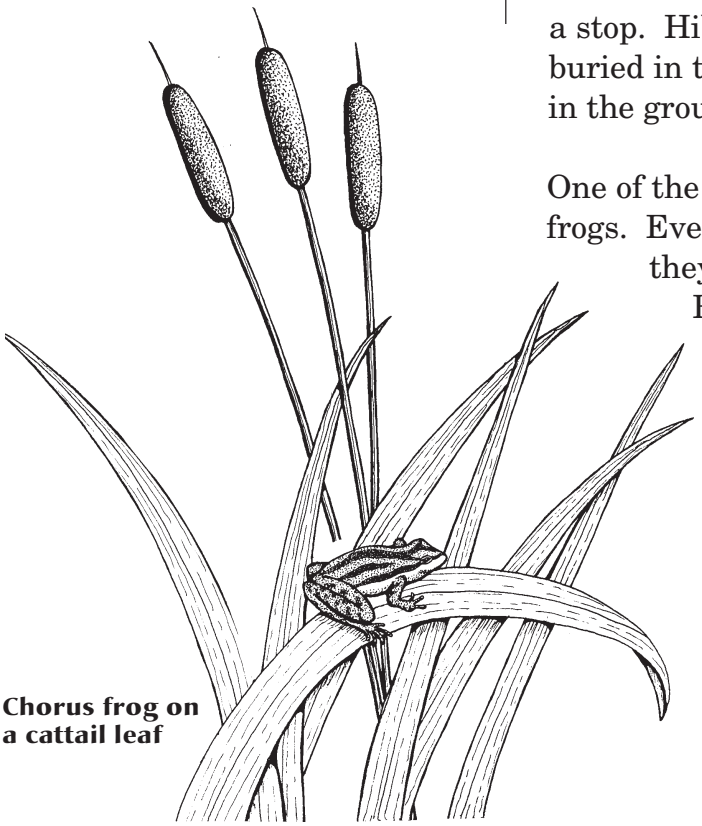
All **herps** are **vertebrates**. That means that they have a backbone and an interior skeleton.

Iowa amphibians and reptiles are **cold-blooded**. This doesn't mean that their blood is actually cold. It means most herps don't generate body heat. They rely on the water, soil, and warm sunshine to help them regulate their body temperature. That's why you see turtles basking in the sun. If they get too warm - plop! - into the water they go to cool down.

Herps are most active at moderate temperatures and withdraw from extreme heat or cold. When cold, they are sluggish and slow. As their temperature rises, they become more active.

When the weather gets cold, herps will usually look for a place warm enough to keep them alive. Since they are cold-blooded and have no way to generate body heat, herps **hibernate**. In hibernation, their body functions slow almost to a stop. Hibernation usually takes place either buried in the mud at the bottom of a lake or deep in the ground below the frost level.

One of the first signs of spring is the calling of frogs. Even before the ice is completely melted, they start calling and looking for mates. For amphibians, mating usually takes place early in the spring when Iowa rains keep streams and ponds full.

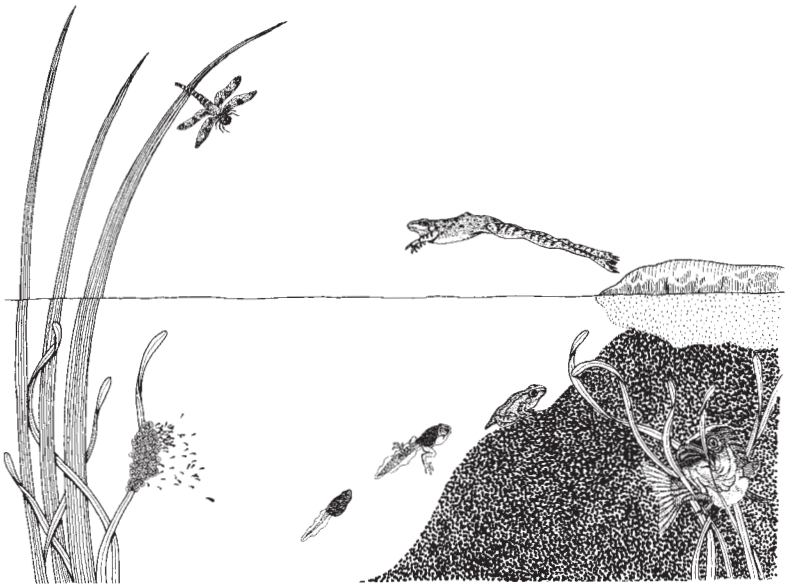


Chorus frog on a cattail leaf

While some young herps eat plants, many young and nearly all adults are predators and are an important link in the food chain. Herps eat insects, spiders, larvae, small fish, and small mammals. In turn, herps are eaten by larger animals and are a very important strand in nature's food web.

Iowa amphibians

Amphibians were the first vertebrates to leave the water and live on land. However, they are still very dependent on water for reproduction. All amphibians lay their eggs in water or wet areas. Their eggs, similar to fish eggs, have no outside shell. These small round eggs are soft and squishy, similar to gelatin, and need to stay in a moist place so they don't dry out.



Frogs lay eggs which hatch to produce aquatic tadpoles that later become adult frogs.

Breeding for most amphibians is seasonal, based on temperature and availability of water. After hatching, the young amphibian stays in a larval stage for a period of time before maturing to an adult stage. In the larval stage, they have gills to obtain oxygen from the water. They look almost fish-like.

Young amphibians go through a remarkable **metamorphosis**, or period of change. In a young frog, called a **tadpole**, the tail shrinks and is absorbed back into the body. As the tail is absorbed, legs sprout from the sides. Lungs begin to develop. Soon, the legs have developed enough to allow the young frog to move out of the water and on to land. As adults, they become **predators**, hunting insects and other animals to eat.

The skin of most amphibians is smooth and contains numerous mucous and toxic glands, giving them a moist, slimy feel. Adults breathe with lungs, but in some cases their lungs are so

poorly developed that they also absorb oxygen through their moist skin. This is why many amphibians are found in moist places.

Frogs and salamanders have good vision. All amphibians can hear. However, salamanders are mostly silent and it's mainly the frog and toad voices you hear. They have a complex system of sounds used for warning, defense, and breeding.

In general, amphibians are very dependent on the water and are an important part of the aquatic ecosystem.

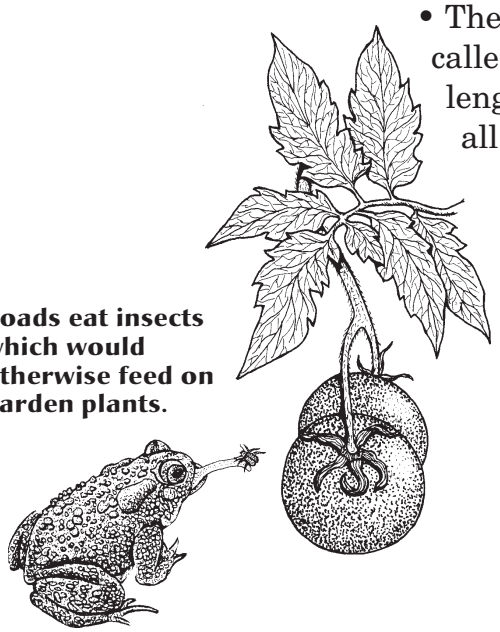
Amphibian Facts

• The term "amphibia" means double life. It refers to the fact that all amphibians such as frogs and salamanders spend part of their lives as water animals and part as land animals.

• Amphibians love water and must lay their eggs in water. However, no amphibians live in the sea. They are found only in fresh water.

• The largest salamander in the United States, called a hellbender, grows to nearly two feet in length. These large salamanders spend nearly all their lives in water.

• The largest land amphibian in the world can be found right here in Iowa! Tiger salamanders grow to be more than a foot in length.



Toads eat insects which would otherwise feed on garden plants.

Iowa frogs

Early in the spring, even before the last snow has disappeared, one of the first signs of springs is the call of the western chorus frog. While it may be only an inch long, it makes a big noise.

The chorus frog isn't really singing in a chorus, of course. It's a male frog looking for a mate as the spring nights get warmer. The female attaches a mass of eggs to a twig or grass under water where they are fertilized by the male. Then the parents leave for the nearby marsh, lake, or woods.

The small clump of eggs hatches in a few days. The exact time depends on the sun's warming of the shallow water. The parent frogs are long gone, and the young fend for themselves. They don't look much like the adult frogs either. They have a rounded head with a long flat tail for swimming.

By early summer, they go through metamorphosis. This change is just in time since the wet spring weather that kept their pond or marsh full is becoming drier and the water begins to recede.

Treefrogs

Many Iowa frogs belong to a family of frogs known as treefrogs. These are small frogs, usually no more than two inches long. The adults spend much of their lives hiding and feeding on insects among the branches and leaves of trees. To help them climb, they have one very distinct feature - toe pads. Each toe ends in a round, enlarged pad that helps the frog cling to surfaces. In fact, treefrogs have been observed sticking to glass windows while eating the insects attracted to the lights inside.

Gray treefrog

Gray treefrogs can change their color. This treefrog is normally gray, dark brown, or dark green. However, if the frog is warm and resting on a green surface, it will change its color to a bright green. Gray treefrogs are found all across Iowa in wooded areas near a permanent body of water. During the breeding season, they'll be at the water's edge. Otherwise, look for them hiding in trees under loose bark and in moist decaying areas.

Spring peepers also like the ponds of wooded areas to lay their eggs, but prefer to live in trees or moist leafy areas in wooded areas along streams. Spring peepers are found mainly in the eastern third of Iowa in forest remnants. While they prefer ponds, look for them in nearly any body of water ranging from roadside ditches to lakes. The brown color of spring peepers makes them hard to see, but if you find one, you can tell it's a spring peeper by the dark-colored "X" on its back. This small treefrog has a very loud voice. It makes a short, clear "peep" every one or two seconds. A chorus of peepers can be almost deafening up close and may be heard for a mile or more.

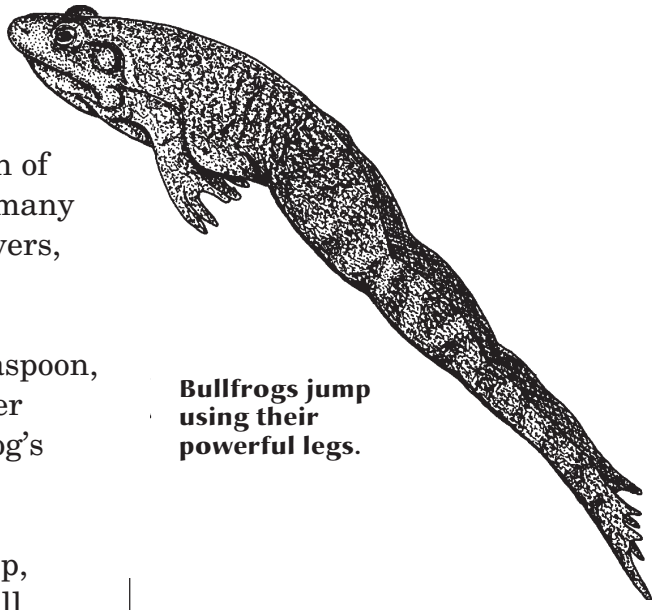
The loud chorus frogs are the first frogs to call in the spring, along with the spring peepers. Their call sounds like your finger running along the teeth of a comb, only much louder. They usually mate and call from areas where springtime water has covered an area of dead grasses. They are almost invisible as they blend into the old grasses with their tan or pale green skin with broken, darker stripes running down their backs. They are one of the very smallest frogs in Iowa. Measuring only a little over an inch long, several would easily fit in a teaspoon!

Blanchard's cricket frogs are about the same size as chorus frogs but look stronger and sturdier. Their skin is granular, almost as if it is covered with coarse sand. When threatened, they jump into the water and jump back out on the bank a few feet away. They seem to disappear as they blend into the bank.

Highly aquatic frog

While treefrogs are very small and live much of their adult lives in wooded areas, there are many frogs that spend most of their lives in the rivers, streams, and lakes of Iowa.

While several treefrogs would fit on your teaspoon, the bullfrog would be longer than your dinner plate. And, in fact, many people do enjoy frog's legs for dinner!

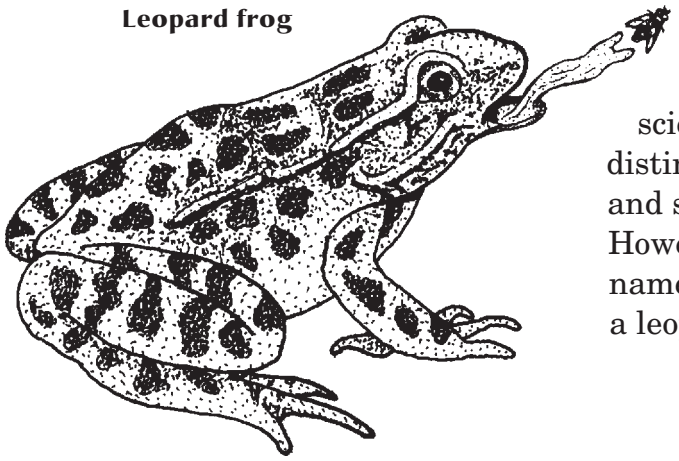


Bullfrogs jump using their powerful legs.

The bullfrog gets its name because of its deep, single note call that sounds like a bass or bull fiddle. It is Iowa's largest frog and can grow up to eight inches long. Bullfrogs need two years to develop from an egg to adult frog. So they are found in water that's deep enough to not freeze completely to the bottom. Once found mainly in the southern and eastern parts of the state, bullfrogs have been stocked in ponds and now are found statewide. They are aggressive hunters and eat insects, small fish, and even small birds, snakes, and mammals. BARUUP!

Green frogs seem to compete with bullfrogs for habitat. Where larger bullfrogs are found, green frogs are absent. Green frogs can grow to be four inches long. They are sometimes nicknamed "banjo frogs" because the male's call sounds like a low-pitched banjo string plucked several times in a row. A chorus of these frogs sounds like a group of banjo players warming up for a concert!

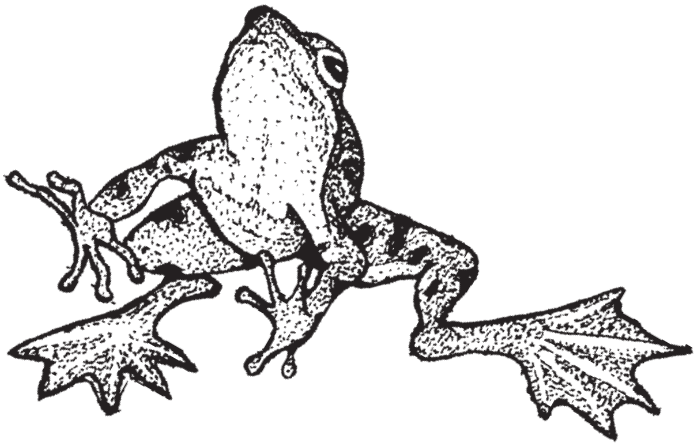
Leopard frog



The leopard frog is one of the most common and widely-distributed frogs in all of North America. Today, most scientists agree that Iowa has three distinct species: the northern, plains, and southern leopard frogs. However, they all share a common name because they have spots like a leopard.

The northern leopard frog is found throughout the state. Its oval spots tend to be outlined in yellow or white, unlike the other leopard frogs found in Iowa. The plains leopard frog is more gray in color and is found in the southwestern half of the state. Both the northern and plains leopard frog may be found in the same areas and occasionally in the same pond or lake. The southern leopard frog is found only in extreme southeastern Iowa.

The call of the leopard frog sounds like a long snore followed by a series of short grunts. Distinguishing between the different species requires an expert - or a female leopard frog!

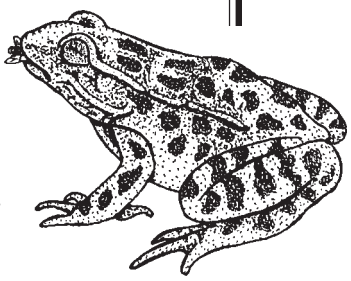


Froggy facts!

• Toads and frogs are closely related. In fact, many experts call toads frogs. If you're not sure if it's a toad or a frog, call it a frog. You'll be right!

• Frogs are amazing jumpers because of their strong hind legs. Tiny cricket frogs have been known to jump up to 40 times their own length!

• Frogs have tricky tongues. Rather than being attached at the back of the mouth like your tongue, it's attached at the front. The sticky tongue flips out against its food and flips back in against its throat. Gulp! No need to chew. This suits the frog just fine as a frog has tiny teeth that aren't useful for chewing.



• Your parent may ask you to eat with your mouth closed, but if you were a frog you'd eat with mouth closed - and your eyes closed, too! Frogs close their bulging eyes and push down with them to help force food down their throats.

• Speaking of eyes, many frogs have special clear eyelids that close over their eyes to protect the eyes under water. It's like built-in swimming goggles!

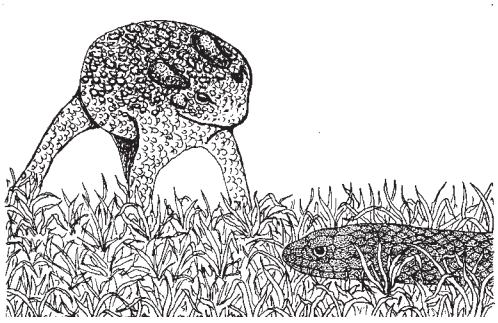
• The skin of pickerel frogs secretes a toxin that makes other animals ill. In fact, if you place a pickerel frog in a collection bag with other frogs, the toxic secretion may kill the others.

• While frogs like water, they can't drink it! They must absorb body moisture through their skin.

Toads

While most frogs have smooth, moist skin, toads have drier skin that is full of warts. Toads are stockier than frogs and have shorter legs. Instead of jumping, they move with more of a walk and plodding hop.

Since frogs and toads are a favorite meal for snakes, birds, and small mammals, they have to have a good defense. Toads are not good jumpers,



Toads puff up their bodies to make themselves appear larger to predators.

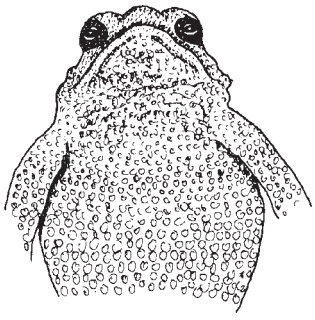
so they bluff predators by puffing themselves up with air and stretching out their legs so they look biiiiGGG!

If that doesn't work, toads have poison glands located behind their eyes. While the toxin isn't poisonous to people, it tastes bad and irritates sensitive areas. It acts as a deterrent to any animal that tries to pick up a toad in its mouth. If you pick up a toad, you may be in for a wet surprise. While the toad's skin is dry, it will probably pee in your hand and leave a wet mess. So wash your hands with soap and water after handling a toad.

While the adult spends nearly all its life on land, it must return to water to lay eggs. The American toad lays from 4,000 to 20,000 eggs in a long string rather than a mass like most frogs. After the eggs hatch, the tadpoles mature quickly, taking only five or six weeks to become a toad. A mature adult grows to about four inches long.

The most common toads in Iowa are the American toad and Woodhouse's toad. They can be found in many kinds of habitat ranging from cultivated fields and gardens to grassy fields and woodlands all across Iowa. The Woodhouse's toad does not have a spotted chest and it's not quite as large.

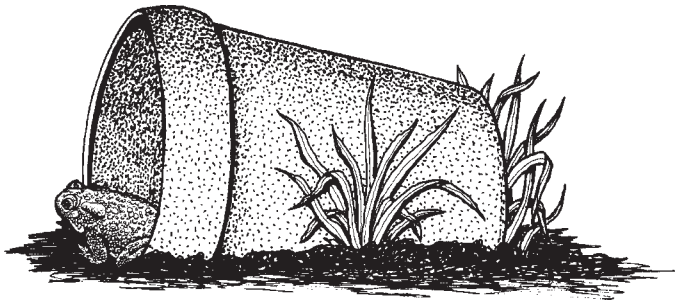
American toad



Woodhouse's toad

These toads hunt for insects primarily in the evening and nighttime hours and spend the day

hiding under boards, rocks, or other cover. Because toads eat so many insects, gardeners love them. To help attract a toad to your garden, find a spot that is often moist, like around a water faucet, and partially bury a large flower pot on its side in a shady area to provide cover.



Two other toads live in the western two tiers of counties in Iowa. Great plains toads and spadefoot toads are mainly found in the loess hills area bordering the Missouri River.

Salamanders

Many people think salamanders and lizards are the same, but they are really quite different. Salamanders are amphibians with smooth, moist skin, while lizards are reptiles with dry, scaly skin. Salamanders are stockier, with heavy tails and no claws.

While lizards and reptiles may be found in very dry and sunny areas, salamanders and other amphibians prefer moist areas near water. Salamanders lay their eggs in the water. The young use gills to obtain oxygen from the water. Larval salamanders grow quite large, nearly as large as some adults, and they have frilly, external gills along their necks. The young will eat almost anything they can get into their mouth such as insects, spiders, small fish, and other salamanders. Adults eat worms, insects, and other small animals.

The tiger salamander is the largest salamander found on land and grows to be nearly a foot long. It looks like a stocky dark lizard, but with wet skin, a long, heavy tail, and a very large, frog-like mouth.

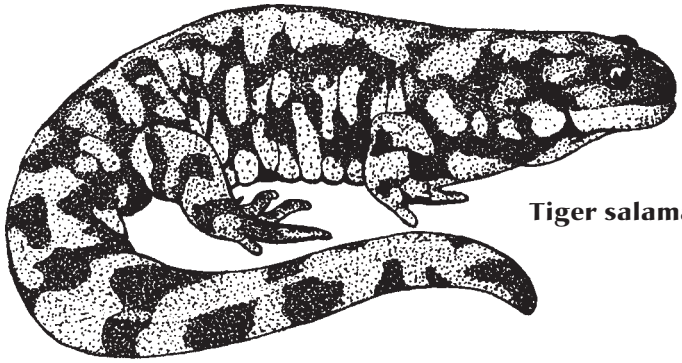
Tiger salamanders are found in nearly any non-flowing body of water in Iowa. They are found in persistent ponds in roadside ditches, farm ponds, and lakes. They prefer ponds without fish since they are a favorite food for some fish species. This is one animal that may have increased because of people. Shallow farm ponds are good habitat for salamanders. Other salamanders found in Iowa include the blue-spotted salamander, mudpuppies and the central newt.

Secrets about salamanders

• Salamanders are quiet, secretive animals. They keep to themselves and generally come out at night when people aren't around. You might be surprised at how many salamanders there are! In some moist woods, scientists estimate that there are more salamanders than there are birds and mammals combined! Since they hide under leaves, logs, and rocks, you'd never know unless you really searched.

• Unlike their noisy relatives the frogs, salamanders are quiet. In fact, they are voiceless, although they sometimes make a small squeak when handled.

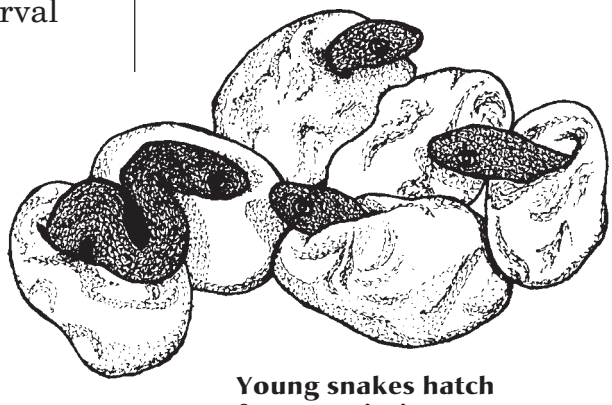
• Young salamanders are important to scientists. If a young salamander loses an arm or a leg, it grows a new one. Doctors are studying how they do it to see if people can regenerate limbs, too!



Tiger salamander

Iowa reptiles

Reptiles are evolutionary more advanced than amphibians and are no longer tied to the water. Unlike amphibians that lay eggs in water, reptiles have developed **amniote eggs** with tough, leathery skins to keep them from drying out. The young generally look like miniature copies of the adult with no larval stage or metamorphosis.

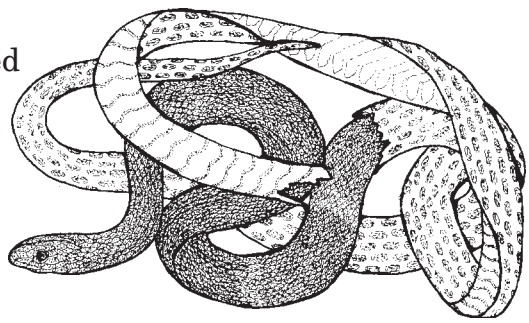


Young snakes hatch from amniotic eggs.

Part of the ability of reptiles to invade dry-land environments was the development of a dry skin that reduces the loss of body water. The reptile skin has scales on its outer surface that increase the skin's resistance to water, further reducing moisture loss. Scales may be small and overlapping, as in snakes and lizards, or they may be large and adjoining, as in turtles.

With lizards and snakes, the scales can't increase in size as the animal grows. These reptiles shed their skin and scales and replace them with a new set of larger scales. In the shedding process, called **molting**, the older upper layer of skin with its attached scales loosens and breaks away from a newer layer that has already developed beneath it.

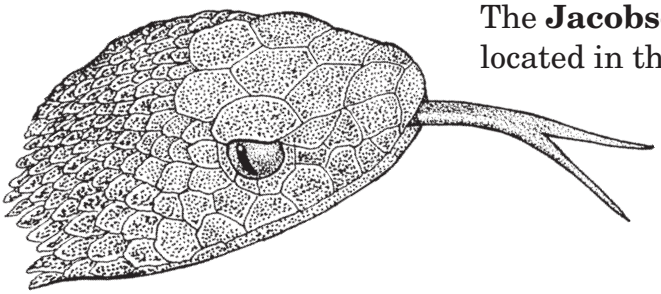
With turtles, the large scales don't molt. They are enlarged and thickened by additional layers growing beneath. In some turtles, this results in pyramid-shaped humps to form the shell.



Vision is the most commonly employed reptilian sense. Snakes and some lizards appear to have lidless eyes that don't blink. Actually, the lower eyelid is transparent and permanently attached to the upper eyelid. So in fact the eyelid is always closed rather than always open!

Reptiles have no external ear, but most have an eardrum near the surface of the skin. Their ability to hear varies. Turtles have a well-developed ear structure but give little evidence of being able to hear. Snakes lack an eardrum but retain bone that is positioned against the lower part of the skull at the jaw hinge. The snake can't "hear" airborne sounds in the usual sense, but the snake's inner ear does respond to low-frequency sounds through vibrations to the skull bones. A snake can readily detect vibrations through the ground.

Snakes use their forked tongues to sense their environment.



The **Jacobson's organ** is a chemical detector located in the roof of the mouth of snakes and lizards. The rapid in-and-out flicking of a snake's tongue picks up tiny chemical particles which are placed on the two openings of the Jacobson's organ for identification.

Remarkable reptiles

• Reptiles are old! Some turtles we see today haven't changed much since the days of the dinosaurs.

• Reptiles have thick, scaly skins. Their scales are made of keratin - just like your fingernails!

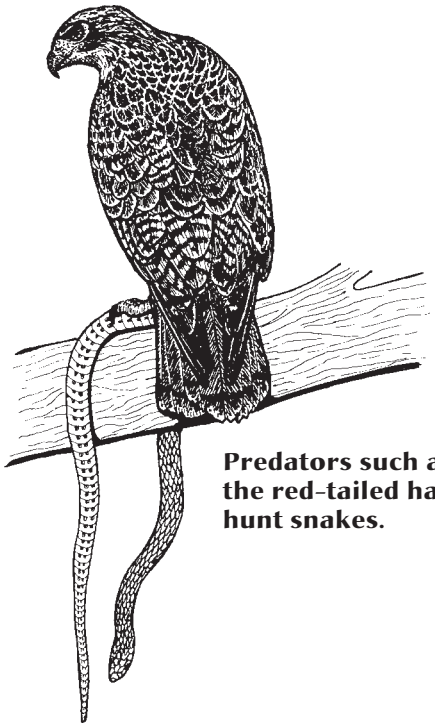
• Just as your skin flakes off as you grow, so does a reptile's. With lizards, scales flake off one at a time. Snakes grow a new set of scales under the old ones, and the old skin comes off in one long piece.

• If you were a reptile, you'd stick out your tongue to smell what's for supper! Many reptiles flick their tongues out to collect tiny molecules to help that allow them to sense enemies, food, or a mate!

Snakes of Iowa

Snakes may be found in every county in Iowa. They vary in size from very small brown and red-bellied snakes that are less than a foot long to black rat snakes that grow to six feet long.

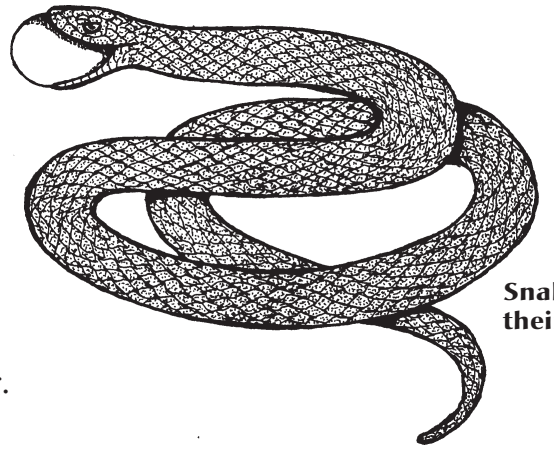
Small snakes generally eat worms, slugs, and insects. They, in turn, become dinner for larger snakes, hawks, owls, and other predators. Larger snakes help control populations of small mammals like mice, rats, and ground squirrels. They also eat birds and eggs if available. Some Iowa snakes such as the fox snakes and black rat snakes are good climbers. They climb trees and inside farm buildings to hunt their dinner.



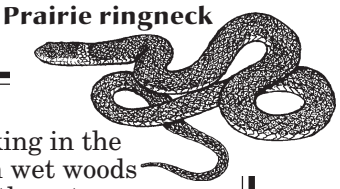
Predators such as the red-tailed hawk hunt snakes.

Snakes hunt their prey in a variety of ways. For eggs or slow-moving prey like slugs and worms, they simply open wide and swallow the meal whole. Constrictors strike out at an animal, stun it, coil around it, and squeeze it tightly until it dies. Rattlesnakes strike and bite their prey, injecting poisonous venom through the large hollow fangs. They follow the prey until the poison takes effect and then swallow the animal whole. Snakes generally are not scavengers. They usually don't eat animals that they haven't caught and killed themselves.

Most snakes lay about a dozen eggs in early to mid-summer. The young hatch in late summer and early fall. Most eggs are laid in protected areas such as under a fallen log or rotting stump. The young generally look like a small version of the adult snake. The adults do not tend the nest of eggs or raise the young.

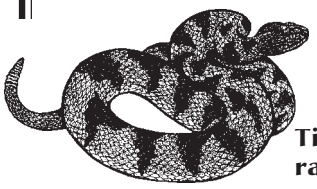


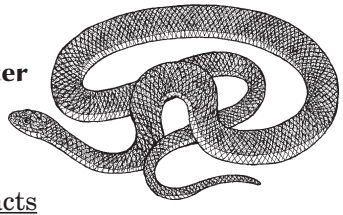
Snakes swallow their prey whole.


Prairie ringneck

Snakes of Iowa woodlands

Common name	Characteristics	Interesting facts
Brown snake	About 12"; tan with square blotches; eats worms and insects	Commonly seen basking in the sun; gentle; found in wet woods statewide except northwest corner
Northern red-bellied snake	About 10"; brown with pale stripe and red belly; eats worms and slugs	Found in wet woods throughout Iowa except southwest corner; climbs trees
Prairie ring-neck snake	About 10"; dark with bright yellow or orange ring around neck	Hunts frogs and worms at night; hides during day; found in wooded hills statewide except in northwest corner
Milk snake	Northern race is tan with large dark blotches; southern race is tan with red blotches; appears to be banded	Once thought to steal milk from cows; feeds on rodents in farm buildings
King snake	Black with white dots; looks speckled	Found in southern three tiers of counties in Iowa; very secretive
Fox snake	Large; 3-5 feet long; cream color with dark blotches	Coils and vibrates tail like a rattlesnake but is not poisonous; good climber
Black rat snake	Large black constrictor; 4-6 feet long; black with cream-colored belly	Flat belly helps it climb trees; eats birds and rodents; found in eastern and southern Iowa in thick forests
Timber rattlesnake	Large and heavy body; tan with chevrons on back; tail has ring-like rattles	Poisonous; bites people only if disturbed; found in eastern and southern Iowa in thick forests; rarely seen; venom rarely fatal if treated

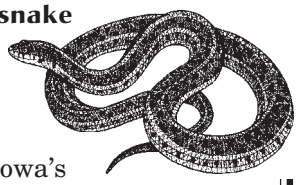

Timber rattlesnake


Blue racer

Snakes of Iowa fields and prairies

Common name	Characteristics	Interesting facts
Racers	Blue to slate colored; no stripes or marks; shy and secretive	Well-adapted to prairies; eats rodents, lizards and frogs; found throughout Iowa except extreme north
Bullsnake	Iowa's largest snake, growing up to six feet long	Powerful constrictors; eat large numbers of small mammals and may eat birds and eggs; found in woods and open areas
Prairie king snake	Tan to brown with large blotches; not as banded as the milk snake; about three feet long	Found throughout southern Iowa; prefers open areas along woodland edges
Prairie rattlesnake	One of Iowa's four venomous snakes, potent venom but rarely fatal if treated	Very rare, found only north of Sioux City in loess hill bluffs areas; seldom seen

Plains garter snake



Snakes of Iowa found in and near water

Common name	Characteristics	Interesting facts
Eastern garter snake	Brown to green with creamy stripe along the back and sides; red-sided and plains garter snakes are similar	Bare live young; Iowa's most abundant snake; often found in towns and cities; common near water
Hognose snake	Short, fat snake; has an upturned nose and flat head	When threatened, inflates with air and flattens neck like a cobra; if it can't intimidate attacker, it rolls over and plays dead; found in woodland clearings near water
Massasauga (swamp rattlesnake)	Black blotches down the back with smaller blotches along the sides on a gray background; distinct pits below the eyes	Least dangerous poisonous snake in Iowa; bites are painful but rarely fatal; lives in marshy areas but mainly seen in higher, drier areas
Copperhead	Copper or bronze in color with darker hourglass markings	Iowa's rarest snake; if there are any in Iowa, they live in the extreme southeast corner of the state; poisonous but rarely fatal

Pssssst. Here'sss the low-down on sssnakes.

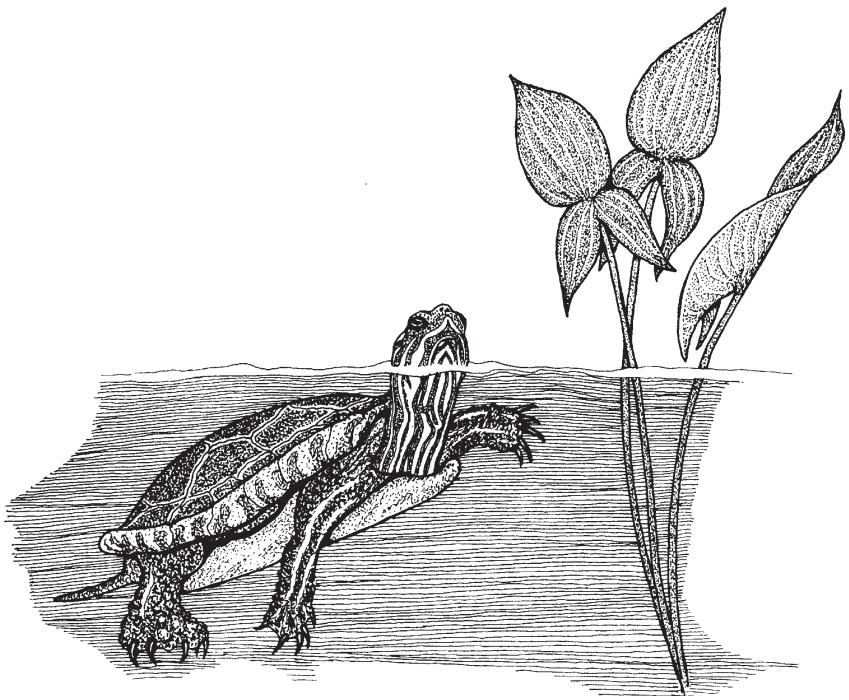
- Imagine that you could swallow a pumpkin whole! Well, a snake can swallow animals and eggs bigger than its head. GULP!
- Snakes make good snacks. Many animals like to eat snakes including bullfrogs, snapping turtles, badgers, skunks, foxes, hawks, owls, and even pigs and people!
- Speaking of eating, if you like barbecue ribs, you'd love snakes! A large snake can have up to 500 vertebrae holding 1,000 ribs. Of course, each bite would be very small.
- Most snakes are not poisonous. There are more than 2,500 kinds of snakes in the world and only 400 are poisonous to people. Just 16 of those live in the United States. Iowa has two poisonous snakes, the massasauga and timber rattlesnake. Both are rare and found in eastern and southern Iowa. Two other poisonous snakes, the prairie rattlesnake and the copperhead are occasionally reported in Iowa but are very rare.
- People seldom die from snake bites if treated. In fact, more people die each year from honeybee and wasp stings than snake bites!

Turtles

Nearly every turtle in the world, and all the turtles in Iowa, share one very noticeable feature - a tough shell that covers most of their body. The shell is made up of three distinct parts: a dome-shaped **carapace** that covers the top of the body; a flatter **plastron** that covers the underside of the turtle; and a **bridge** that joins the two halves together. When the turtle pulls its head and legs inside this tough armor, predators find it almost impossible to harm the turtle tucked inside its shell. Once danger is passed, the turtle pokes out its head and legs and continues on its way.

Even though most turtles in Iowa spend much of their life in the water, they breathe air. They don't need nearly as much oxygen as people, and can stay under water for hours before they need to pop the tips of their heads through the surface of the water to breathe more air.

Iowa turtles usually lay their eggs in June or July in sandy, well-drained soil in sunny locations. Depending on the type of turtle, the young hatch in the fall or the next spring. Turtles must be several years old before they mate and lay eggs. In fact, large turtles like the snapping turtles may be seven years old or more before they lay eggs. The number of eggs laid varies depending on the kind of turtle and its age. A mature snapping turtle may lay 50 or more eggs, while a young box turtle might lay three or four eggs.



Turtle tales

• Turtles lived on Earth around 200 million years ago. That's about the same time the first dinosaurs appeared and long before people lived. While the dinosaurs died out, the tough turtles survived.

• For many centuries, people have admired the tough shell of turtles. Many people used the tough shell for a bowl. Some Native American legends claimed the world rests on the back of a giant turtle shell.

• Turtles don't shed their shells like snakes shed their skins. Turtles just grow a larger section of shell that pushes up the old section. The domed sections on the backs of turtles are old shell layers on top of newer layers.

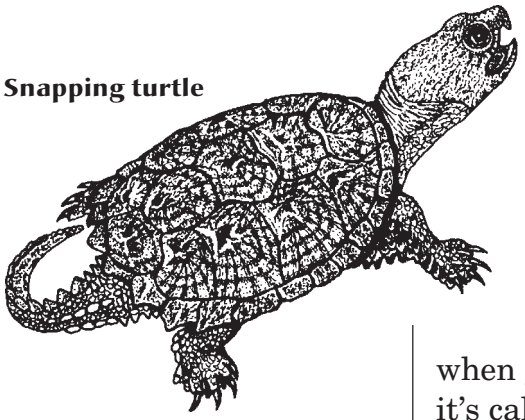
• Turtles can see in color just like you. They have excellent eyesight and a good sense of smell, too.

• All turtles lay their eggs on land. Even sea turtles, which almost never leave the water, must venture on land to lay their eggs.

Turtles commonly found in Iowa

Stay away from snapping turtles! Snappers, as they are often called, have bad tempers. They don't like to be disturbed.

Snappers live in just about any body of water including rivers, lakes, and farm ponds. They grow to be quite large and can weigh up to 40 pounds or more! Don't let the large size fool you. The head can move forward amazingly fast to grab food. Snappers use their speed to grab water birds and pull them under the water to eat. They also will eat fish, dead animals, and even small mammals swimming in the water.

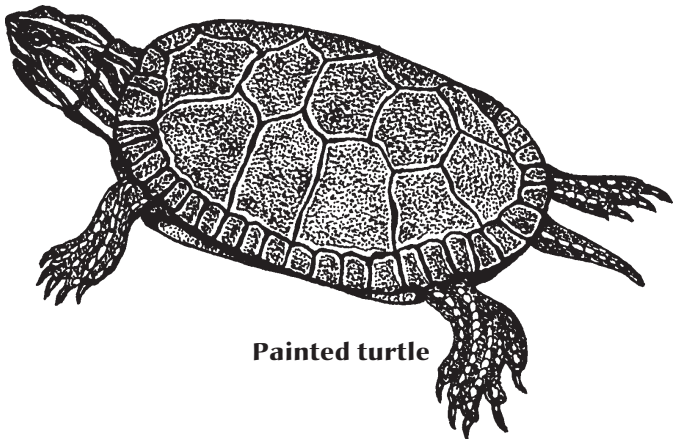


Snapping turtle

Snapping turtles, because of their large size, are one of the favorite turtles for eating. They provide a large amount of lean meat for soups and stews.

Painted turtles are one of the most common and colorful of Iowa's turtles. The top of the shell is smooth green with a faint network of yellow lines. However, when you turn over this turtle, you realize why it's called the painted turtle! The plastron is yellow-orange with ornate red markings outlined with black. Painted turtles from the western areas of the state are the most ornate.

Painted turtles are common in lakes and ponds in all parts of Iowa. While they live in water, they are found on land as they travel in search of a new home. They prefer bodies of water with a mud bottom and aquatic vegetation. Painted turtles eat insects, snails, worms, dead fish, and, as they age, equal amounts of plant material. They bask in the sun and often climb out on a floating log to soak up some sunshine. Painted turtles hibernate under the water. They are quite resistant to cold and may be active for short periods during the winter. They are one of the first to become active in the spring.

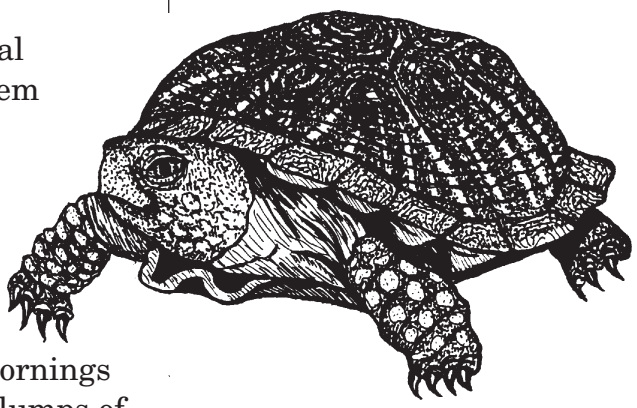


Painted turtle

Soft-shell turtles have a tough, leathery shell without hard or bony plates. Their necks and heads are long and narrow, and the nostrils at the tip of their heads are tube-like. Their legs are thick, ending in completely webbed feet. These turtles prefer slower-moving rivers and sluggish streams, although they also are found in lakes and ponds. Soft-shell turtles primarily feed on crayfish, although they will eat other animals. Their webbed feet make these turtles excellent and fast swimmers. They spend their life in water and sun only briefly. They are rarely found on land except to lay their 10 to 20 eggs close to shore.

Turtles rare to Iowa

Like the rings of a tree, the scales on the back of the wood turtle add a new ring of growth each year. They are gentle turtles and, in the past, were prized as pets. They are now considered endangered in Iowa and several other states, and it is illegal to remove them from the wild. Wood turtles are found in northeastern Iowa.



Ornate box turtle

The ornate box turtle is Iowa's only fully terrestrial turtle. It is a threatened species, so it is illegal to keep them. They are most active in the mornings and evenings and will seek out shade in clumps of grass during the heat of the day. They can be identified by their oval shape with a highly domed shell that makes them look boxy. Box turtles are found most often in the loess hills area of western Iowa and in sandy areas of extreme eastern Iowa.

Other rare turtles in Iowa include the blanding's turtle, map turtle, and stinkpot, which gets its name from an unpleasant musky odor secreted from special glands.

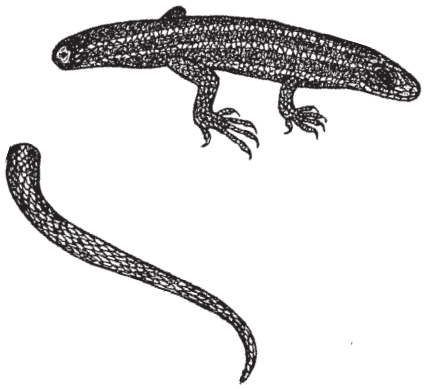
Lizards

Lizards are closely related to snakes and are covered with dry scales. The head, neck, and body of lizards are usually distinct. Most have two sets of legs ending in feet with claws. Lizards are not common in Iowa. Most Iowa lizards are skinks found along rivers.

Unlike snakes, lizards are not deaf and have external ear openings. They also have numerous teeth arranged in a single row along their jaw and chew their food. Since they eat mostly insects, lizards are beneficial and should be protected. While they may bite if handled, no Iowa lizards are poisonous.

Most Iowa lizards have a unique defense. Their long tails are very loosely connected to the rest of their body. When a predator grabs them by the tail, the tail breaks off and keeps wriggling while the body of the lizard escapes. Within a few weeks, the lizard grows a new tail.

The tails of most lizards can break off and grow back later.



Prairie skinks are quite variable in color, ranging from dark brown or black in the young to almost tan in older adults. They are found mostly in the northern one-third of Iowa. They prefer sandy soil along rivers where prairie and woods meet. They like to hide in the loose bark of fallen trees, but they also like the warm sunshine of prairie areas.

Five-lined skinks are the most colorful of Iowa lizards. When young, they are black with five distinct white or yellow stripes that extend all the way to the tail - which is bright blue. These lizards are found mainly in the wooded areas of eastern and northeastern Iowa.

Racerunners belong to a family of lizards known as whiptails because of their very long, thin tails. These nervous animals dart quickly from one hiding place among vegetation to another. They have pointed noses that they use to get into small cracks to eat termites, their primary source of food. Racerunners are found in sandy areas primarily along the Mississippi and Missouri Rivers. They prefer open prairie areas, but increased agriculture has reduced this habitat - and the number of racerunners in Iowa.

Let's here it for herps!

Herps really are amazing and valuable members of natural communities. They control harmful insects and rodents and in turn provide food for other animals and people. The life story of amphibians is truly amazing as they hatch from eggs to become water creatures that transform to land animals. The more you study and observe, the more you'll agree that herps are really some of the most amazing animals on Earth.

Useful resources

Booklets about Iowa herps

Turtles and Lizards of Iowa; J.L. Christiansen and R.M. Bailey; Iowa Department of Natural Resources, Des Moines, IA; 1988.

Salamanders and Frogs of Iowa; J.L. Christiansen and R.M. Bailey; Iowa Department of Natural Resources, Des Moines, IA; 1991.

Snakes of Iowa; J.L. Christiansen and R.M. Bailey; Iowa Department of Natural Resources, Des Moines, IA; 1986.

Web resources about Iowa herps

Frog Monitoring Hotline
http://www.im.nbs.gov/amphib/

Prairie Herps of Iowa
http://www.public.iastate.edu/~jlmc/escan/PrHerps.html

Waterway Herps of Iowa
http://www.public.iastate.edu/~jlmc/escan/WaterHerps.html

Wetland Herps of Iowa
http://www.public.iastate.edu/~jlmc/escan/WetHerps.html

Woodland Herps of Iowa
http://www.public.iastate.edu/~jlmc/escan/WdHerps.html

Other general resources about herps

Naturescope: Wading Into Wetlands; National Wildlife Federation, Washington, D.C.; 1989.

Naturescope: Let's Hear It For Herps; National Wildlife Federation, Washington, D.C.; 1987.

Zoo Books: Rattlesnakes; Available from Zoo Books, Box 85384, San Diego CA 92186-5384

Zoo Books: Turtles; Available from Zoo Books, Box 85384, San Diego CA 92186-5384

Zoo Books: Snakes; Available from Zoo Books, Box 85384, San Diego CA 92186-5384

Iowa Reptiles and Amphibians is one in a series of six booklets that are part of the *Iowa Wildlife Series*. The booklets in the series include:

Iowa Wildlife Series

Iowa Mammals	(IAN-601)
Iowa Winter Birds	(IAN-602)
Iowa Nesting Birds	(IAN-603)
Iowa Reptiles and Amphibians	(IAN-604)
Iowa Fish	(IAN-605)
Iowa Insects and Other Invertebrates	(IAN-606)

The Iowa Association of Naturalists also has produced five other booklet series that provide readers with a clear, understandable overview of topics concerning the Iowa environment and conservation. The booklets included in each of the other five series are listed below.

Iowa's Natural Resource Heritage

Changing Land Use and Values	(IAN 501)
Famous Iowa Conservationists	(IAN 502)
Iowa's Environmental Laws	(IAN 503)

Iowa Wildlife and People

Iowa Wildlife Management	(IAN-401)
Keeping Iowa Wildlife Wild	(IAN-402)
Misconceptions About Iowa Wildlife	(IAN-403)
State Symbols of Iowa	(IAN-404)
Iowa Food Webs and Other Interrelationships	(IAN-405)
Natural Cycles In Iowa	(IAN-406)
Iowa Biodiversity	(IAN-407)
Adapting To Iowa	(IAN-408)

Iowa Plants

Iowa's Spring Wildflowers	(IAN-301)
Iowa's Summer and Fall Wildflowers	(IAN-302)
Benefits and Dangers of Iowa Plants	(IAN-303)
Iowa's Trees	(IAN-304)
Seeds, Nuts, and Fruits of Iowa Plants	(IAN-305)
Iowa's Mushrooms and Other Nonflowering Plants	(IAN-306)
Iowa's Shrubs and Vines	(IAN-307)

Iowa's Biological Communities

Iowa's Biological Communities	(IAN-201)
Iowa Woodlands	(IAN-202)
Iowa Prairies	(IAN-203)
Iowa Wetlands	(IAN-204)
Iowa Waterways	(IAN-205)

Iowa Environmental Issues

Iowa Habitat Loss and Disappearing Wildlife	(IAN-101)
Iowa Air Pollution	(IAN-102)
Iowa Water Pollution	(IAN-103)
Iowa Agricultural Practices and the Environment	(IAN-104)
People, Communities, and Their Iowa Environment	(IAN-105)
Energy In Iowa	(IAN-106)
Iowa Waste Management	(IAN-107)

These booklets are available to download via PDF on the ISU Extension Store:

store.extension.iastate.edu

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